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EXAMINER
PHAM, HUNG Q

ART UNIT	PAPER NUMBER
2168	

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Office Action Summary	Application No.	Applicant(s)
\		09/771,143	CRIM ET AL.
		Examiner	Art Unit
		HUNG Q. PHAM	2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 March 2006</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>11-15,38-43,45-47 and 51-58</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>11-15,38-43,45-47 and 51-58</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

<u>*Applicants' Arguments with respect to 35 U.S.C. § 112, first paragraph*</u>

• The previous rejection of claim 11 under 35 U.S.C. § 112, first paragraph, has

been withdrawn in view of the amendment.

• Applicant's arguments with respect to the rejection of claim 14 under 35 U.S.C. §

112, first paragraph, have been fully considered and are persuasive. The rejection of claim 14

under 35 U.S.C. § 112 has been withdrawn.

<u>*Applicants' Arguments with respect to Rejection Under 35 U.S.C. § 103*</u>

Applicant's arguments with respect to the rejection under 35 U.S.C. § 103 have been

fully considered but they are not persuasive.

As argued by applicants at page 13:

(a) *...the Applicant respectfully submit that the Granted Permission Table of Bapat et al. does NOT teach or*
even remotely suggest a <u>calculation expression</u> for a database.

(b) *... Bapat et al. does not teach or suggest evaluating a calculation expression for a plurality of records of*
a database based on at least one field of data of said database, wherein the evaluating comprises: (a)
determining at least one value for at least one field of data stored for a first record of, (b) using the at least
one value as input to the calculation expression to evaluate the calculation expression for the first record,
and (c) determining a first result for said calculation expression based on the evaluation of the calculation
expression for the first record, wherein the first result effectively indicates whether to grant access to the
first record.

(c) *... the Examiner needs to at least show a motivation or suggestion for defining a calculation expression for a*
password used in a database in order to establish a prima facie case of obviousness that supports

rejection of claim 1 under 35 U.S.C. 103(a), Instead, the Examiner has merely asserted that assigning or identifying a password is a conventional technique (Office Action, page 5).

(d) ... *the Examiner has failed to establish a prima facie case of obviousness that supports the rejection of claims 43 and 45-47 because the Examiner has failed to provide a motivation or suggestion for combining Bapat et al. and Glasser et al. (Office Action, page 12). Instead, the Examiner has merely stated that in order to create the permission table of Glasser et al., obviously a Graphical User Interface has to be used.*

Examiner respectfully disagrees.

(a)   Referring to FIG. 15A, a Granted Permissions Table is disclosed:

Granted Permissions Table for Table 1

User Name	Object Name	Operation Type
user_x	object_xyz	SELECT
user_x	object_qrs	UPDATE
user_y	object_xyz	SELECT
user_y	object_abc	DELETE
user_z	object_def	SELECT
group_a	object_hij	SELECT
group_z	object_jkl	SELECT

Each row of the Granted Permissions Table is defined by a meaningful combination of variable characters or *variable expression* to specify a record access right for a user, wherein each row in the Granted Permissions explicitly defines an access right of a user to a record in the database with its Fully Distinguished Name as a key is equal to the specified Fully Distinguished Name in the Granted Permissions Table. For example, based on the first row of the Granted Permissions Table, a User Name = user_x has Operation Type = delete on any record that has Object Name = object_xyz. Thus, each row expression in the Granted Permissions Table is a *calculation expression* with a plurality of implied EQUAL OPERATOR, and is evaluated by the FDN field of the record to determine the access right

(b)   Referring to FIG. 11A below, each row in the database tables includes a field

called the Fully Distinguished Name or FDN of a managed object followed by columns of data.

For example, an FDN can look like **/systemid="sys1"/owner="accompany"/devicetype="router"** (Col.

19, Lines 24-35).

Row			
FDN	Data 1	...	Data N

As disclosed by Bapat, an SQL command is used to access management information in

DBMS (Col. 25, Line 66-Col. 26, Lines 3). SQL is in the form SELECT FROM WHERE, and

WHERE clause is used to specify a value of FDN (Col. 20, Lines 28-32), wherein FDN is used

as the key that determines which managed objects the user is permitted to access (Col. 19,

Lines 35-40). The Grant table is checked to see if user has specific granted items and grant

access if the current operation matches the operation specified in the Grant table (Col. 28, Lines

1-3). As seen, *calculation expression*, e.g., a row in Granted Permissions Table, is evaluated *for each*

of said plurality of records, e.g., FIG. 11A, *based on said at least one field of data*, e.g., FDN field, *when said*

request has been received, e.g., SQL command to access management information in DBMS,

wherein said evaluating comprises:

(a) determining at least one value for said at least one field of data stored for a first record of said plurality

of records (As disclosed by Bapat, the FDN operates as the primary key to the data stored in the

table and to determine which managed objects that a particular user is permitted to access or

modify (Col. 19, lines 36-40). As seen, FDN as *value for said at least one field of data stored for a first*

record of said plurality of records as in FIG. 11A is determined),

(b) using said at least one value as input to said calculation expression to evaluate said calculation

expression for said first record (As disclosed by Bapat, the Grant table is checked to see if user has

specific granted items (Col. 28, Lines 1-3). This technique implies FDN is used as *input to* a

particular row in Grant table as *calculation expression to evaluate said calculation expression for said first*

record),

       (c) determining a first result for said calculation expression based on said evaluation of said calculation

expression for said first record, wherein said first result effectively indicates whether to grant access to said first

record (access is granted if a match occurred (Col. 28, Lines 1-3). As seen, granting access as *a*

first result is determined, *wherein said first result effectively indicates whether to grant access to said first*

record).

       (c)   In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by combining or

modifying the teachings of the prior art to produce the claimed invention where there is some

teaching, suggestion, or motivation to do so found either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071,

5 USPQ2d 1596 (Fed. Cir. 1988), and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

1992). In this case, the process of assigning a password and identifying password is a

conventional technique, which was used for security purpose, and password is a must for Bapat

method and system in order to have a more secure database system.

       (d)   In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by combining or

modifying the teachings of the prior art to produce the claimed invention where there is some

teaching, suggestion, or motivation to do so found either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071,

5 USPQ2d 1596 (Fed. Cir. 1988), and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

1992). As disclosed by Bapat, the system administrator 302 creates the permissions tables prior

to use of the DBMS 280 by end users. The system administrator 302 invokes a call 440 to the

Create_Permissions_Tables 442 procedure of the DBMS 280 (Bapat, Col. 26, lines 18-

27). As seen, in order to create the permission table by the *Create_Permissions_Tables*

procedure, obviously, a *Graphical User Interface* as disclosed by Glasser has to be used to enter

the user name, FDN and access control code.

In view of the above, the examiner contends that all limitations as recited in the claims

have been addressed in this Action.

Duplicate Claims, Warning

Applicant is advised that should claim 11 be found allowable, claims 53, 54 will be

objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an

application are duplicates or else are so close in content that they both cover the same thing,

despite a slight difference in wording, it is proper after allowing one claim to object to the other

as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Objections

Claims 51 and 53 are objected to because of the following informalities:

- Claim 51 cannot be a dependence of claim 1 (claim 1 has been canceled, claim

11 is respectfully suggested)

- *said calculation expression* as in claim 53 (*said expression* is respectfully suggested).

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11-15, 38-43, 45-47, 53-58, especially claims 11, 38, 43 and 53, are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The method, system and program of claims 11, 38, 43 and 53 do not produce a tangible and useful result as set forth in MPEP 2106 (IV)(B)(2)(b)(ii)[1].

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

---

[1] MPEP 2106 (IV)(B)(2)(b)(ii):

For such subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts. See *Alappat*, 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting *Diamond v. Diehr*, 450 U.S. at 192, 209 USPQ at 10). See also *Alappat* 33 F.3d at 1569, 31 USPQ2d at 1578-79 (Newman, J., concurring) ("unpatentability of the principle does not defeat patentability of its practical applications") (citing *O 'Reilly v. Morse*, 56 U.S. (15 How.) at 114-19). A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. See *AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1452. Likewise, a machine claim is statutory when the machine, as claimed, produces a concrete, tangible and useful result (as in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601) and/or when a specific machine is being claimed (as in *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557 ("*> en-< banc*). For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory. However, a claimed process for digitally filtering noise employing the mathematical algorithm is statutory.

Claim 11, 38, 43 and 56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As in claims 11, 38 and 43, the clause *using said at least one value as input to said calculation expression to evaluate said calculation expression for said first record* was not described in the specification.

As in claim 56, the clause *determining of whether to grant access to said first record determines to grant access to said first record, but said determining of whether to grant access to said second record determines not to grant access to said second record* was not described in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 38 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11, 38 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps.

See MPEP § 2172.01 (As recited in claim 11, a request is received to perform at least one

operation on a plurality of records, and evaluating calculation expression for each of said

plurality of records. However, evaluating as recited from lines 23-29 is performed only for a first

record. The omitted step is identifying and evaluating the next records as disclosed at FIG. 10).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 53-58 are rejected under 35 U.S.C. 102(e) as being anticipated by

Osentoski et al. [USP 6,763,344 B1].

Regarding claim 53, Osentoski teaches *a method for controlling access to individual records*

stored in a database (Abstract). The method comprising:

defining an expression (As shown in TABLE I at Col. 2, a user profile is defined by set of

"Type of Data", "Proctect_Cd" and "Access" data as *an expression*) *that can be evaluated for each of a*

plurality of records stored in a database (Col. 4, Lines 16-24), *wherein said plurality of records of said*

database includes a first record and a second record (Col. 2, Lines 19-20) and

evaluating said expression for said first record of said plurality of records of said database (Col. 4,

Lines 16-24),

determining, based on said evaluating of said expression for said first record, whether to grant access to

said first record of said plurality of records of said database (Col. 4, Lines 21-24).

Regarding claim 54, Osentoski teaches all of the claimed subject matter as discussed

above with respect to claim 53, Osentoski further discloses *expression is defined based on at least one*

field of data stored for said first and second record (TABLE III, Col. 3), *and wherein said evaluating of said*

expression for said first record comprises:

   retrieving a first value stored in said first record for said at least one field (Col. 4, Lines 21-24,

"Protect Code" as *a first value stored in said first record for said at least one field* is retrieved);

   evaluating said expression for said first record based on said first value provided as input to said

expression (Col. 4, Lines 21-24); and

   determining a first result based on said evaluating of said expression for said first record, wherein said

first result effectively indicates whether to grant access to said first record (Col. 4, Lines 21-24).

Regarding claim 55, Osentoski teaches all of the claimed subject matter as discussed above

with respect to claim 54, Osentoski further discloses the step of *evaluating said expression for said second record*

of said plurality of records of said database; and determining, based on said evaluating of said calculation expression for said

second record, whether to grant access to said second record of said plurality of records of said database (Col. 4, Lines 21-

24).

Regarding claim 56, Osentoski teaches all of the claimed subject matter as discussed above with

respect to claim 55, Osentoski further discloses *determining of whether to grant access to said first record determines*

to grant access to said first record, but said determining of whether to grant access to said second record determines not to grant

access to said second record (Col. 4, Lines 21-24).

Regarding claim 57, Osentoski teaches all of the claimed subject matter as discussed above with

respect to claim 51, Osentoski further discloses *expression is defined based on data stored in said database* (Col. 2,

Lines 36-61).

Regarding claim 58, Osentoski teaches all of the claimed subject matter as discussed above with

respect to claim 51, Osentoski further discloses *expression is defined based on one or more of the following: a field of*

data stored in said database; a state variable of said database; and data stored or referenced by said database (USER

PROFILE as *expression* is defined based on ACCESS as *a state variable of said database*)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 11-15, 38-42, 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bapat et al. [USP 6,236,996 B1] in view of Elmasri et al. [Fundamentals of Database System].

Regarding claims 11 and 38, Bapat teaches a method and program for controlling managed objects. The method comprising:

defining a calculation expression, wherein said calculation expression is a variable expression defined based on at least one field of data used in a plurality of records stored in said database (As shown in FIG. 14, tables 310 and 320 as in FIG. 11A are stored in a conventional DBMS 280 (Col. 25, lines 49-50). Rows 311, 312, 321, 322 of the tables 310, 320 contain management information for managed objects (Col. 25, lines 60-61). The FDN operates as the primary key to the data stored in the table and to determine which managed objects that a particular user is permitted to access or modify (Col. 19, lines 36-40). Access control for a particular user on a particular managed object is defined by a permissions table as shown below (Col. 26, lines 10-12).

Granted Permissions Table for Table 1

User Name	Object Name	Operation Type
user_x	object_xyz	SELECT
user_x	object_qrs	UPDATE
user_y	object_xyz	SELECT
user_y	object_abc	DELETE
user_z	object_def	SELECT
group_a	object_hij	SELECT
group_z	object_jkl	SELECT

1502 → (User Name row) 1 →
1510 → (group_a row)

A permission entry 1502 is tuple having three fields, user name, object name, and operation type. The object name, preferably, is the FDN or Full Distinguish Name for a managed object (Col. 26, Lines 28-33). Referring to FIG. 11A as shown below, each row in the database tables includes a field called the Fully Distinguished Name or FDN of a managed object followed by columns of data. For example, an FDN can look like /systemid="sys1"/owner="accompany"/devicetype="router" (Col. 19, Lines 24-35).

Row			
FDN	Data 1	...	Data N

As seen, each row of the Granted Permissions Table is defined by a meaningful

combination of variable characters or *variable expression* to specify a record access right for a

user, wherein each row in the Granted Permissions explicitly defines an access right of a user to

a record in the database with its Fully Distinguished Name as a key is equal to the specified

Fully Distinguished Name in the Granted Permissions Table. For example, based on the first

row of the Granted Permissions Table, a User Name = user_x has Operation Type = delete on

any record that has Object Name = object_xyz. Thus, each row expression in the Granted

Permissions Table is a *calculation expression* with a plurality of implied EQUAL OPERATOR, and

is evaluated by the FDN field of the record to determine the access right) and

calculation expression can be evaluated at least partly based on said at least one field of data used in

said plurality of records (Col. 28, Lines 1-3, the Grant table is checked to see if user has specific

granted items, e.g., FDN, and as discussed above, FDN is *at least one field of data used in said*

plurality of records of FIG. 11A),

wherein said at least one filed of data is a variable which may have different values for each of said

plurality of records (FIG. 10, tables 310 and 320, FDN field is *a variable which may have different values*

for each of said plurality of records),

thereby allowing access to each individual record of said plurality of record to be selectively controlled

based on at least one value of said at least one field of data stored for each of said plurality of records of said

database (Col. 20, Lines 7-32, SELECT*, FROM view_table1_max WHERE FDN = "a/b/c", by

using SELECT*, if FDN is matched with FDN in Grant table, the other fields as in tables 310 and

320 will be accessed, wherein the record is selectively controlled by FDN) and

wherein expression defines access privileges of said one or more users with respect to at least one

operation that may be requested to be performed by said one or more users on said plurality of records of said

database (FIG. 15 A and B).

When a user 300 issues an SQL command to access the DBMS 280 (Col. 22, lines 24-26, Col. 25, lines 65-67) for the status of all routers in the network or for information about a specified list of managed objects (Col. 28, lines 27-30) with an operation as specified in FIG. 15A as *receiving a request to perform said at least one operation on said plurality of records of said database, said request being identified as a request made by said one or more users associated with* user name.

Access Control is enforced by *evaluating* user name, object name and operation type as *said calculation expression for said each of said plurality of records, based on said at least one field of data,* e.g., FDN field, *when said request has been received,* e.g., SQL command to access management information in DBMS,

wherein said evaluating comprises:

(a) determining at least one value for said at least one field of data stored for a first record of said plurality of records (As disclosed by Bapat, the FDN operates as the primary key to the data stored in the table and to determine which managed objects that a particular user is permitted to access or modify (Col. 19, lines 36-40). As seen, FDN as *value for said at least one field of data stored for a first record of said plurality of records* as in FIG. 11A is determined),

(b) using said at least one value as input to said calculation expression to evaluate said calculation expression for said first record (As disclosed by Bapat, the Grant table is checked to see if user has specific granted items (Col. 28, Lines 1-3). This technique implies FDN is used as *input to* a particular row in Grant table as *calculation expression to evaluate said calculation expression for said first record*),

(c) determining a first result for said calculation expression based on said evaluation of said calculation expression for said first record, wherein said first result effectively indicates whether to grant access to said first

record (access is granted if a match occurred (Col. 28, Lines 1-3). As seen, granting access as *a first result* is determined, *wherein said first result effectively indicates whether to grant access to said first record).*

The missing of Bapat technique is the step *identifying a password that is associated with one or more users of said database.*

Elmasri teaches a method of protecting access to a database system by *identifying a password that is associated with one or more users of said database* (Elmasri, page 718).

By using a password to identify a user a taught by Elmasri, the database system is secured and data is protected from misuse and against intruders.

Regarding claims 12 and 39, and Bapat and Elmasri, in combination, teach all of the claimed subject matter as discussed above with respect to claims 11 and 38, Bapat further discloses *at least one operation can be a browse, an edit, or a delete operation* (FIG. 15A and B).

Regarding claims 13 and 40, Bapat and Elmasri, in combination, teach all of the claimed subject matter as discussed above with respect to claims 11 and 38, Bapat further discloses *calculation expression is not explicitly defined for said at least one operation but said calculation expression is one that has been defined for another operation which has been considered as a related operation to said at least one operation* (FIG. 15A).

Regarding claims 14 and 41, Bapat and Elmasri, in combination, teach all of the claimed subject matter as discussed above with respect to claims 11 and 38, Bapat further discloses *said calculation expression can be evaluated at least partly based on at least one state variable of said database, wherein said state variable can indicate the condition of an element of said database at a particular time* (As further disclosed by Bapat at Col. 26, Lines 55-57 and 60-63, by convention, the permissions

tables use a special object name value, such as a database NULL value to represent "all

objects". For a system with 5,000 managed objects, only one entry is required (Col. 27, Lines

30-36). GRANT TABLE: (U1, NULL, Op1). Thus, by using NULL variable, the *calculation*

expression (U1, NULL, Op1) *can be evaluated based on a state variable of a database*, e.g., NULL indicates

5,000 records, and the number of record is the condition of database at that particular time,

because the number of records in the database can be changed overtime, e.g., by deleting or

inserting).

Regarding claims 15 and 42, Bapat and Elmasri, in combination, teach all of the claimed

subject matter as discussed above with respect to claims 14 and 38, Bapat further discloses the

step of *granting temporary or limited access to said at least one record to allow said evaluating of said*

calculation expression (FIG. 15A).

Regarding claim 51, Bapat and Elmasri, in combination, teach all of the claimed subject

matter as discussed above with respect to claim 11, Bapat further discloses *evaluation can return*

at least two possible values for each of said plurality of records, one of said possible values indicating that said at

least one operation should be granted and another one of said possible values indicating that said at least one

operation should be denied (Col. 27, line 45-Col. 28, line 26).

Regarding claim 52, Bapat and Elmasri, in combination, teach all of the claimed subject

matter as discussed above with respect to claim 51, Bapat further discloses the step of *granting*

said at least one operation to be performed when said evaluation returns one said possible value to indicate that

said at least one operation should be granted; and denying said at least one operation to be performed when said

evaluation returns said another possible value to indicate that said at least one operation should be denied (Col.

27, line 45-Col. 28, line 26).

Claims 43 and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Bapat et al. [USP 6,236,996 B1] in view of Glasser et al. USP 6,308,173 B1].

Regarding claim 43, Bapat teaches a database system comprising:

a database including a plurality of records stored therein (Col. 25, Lines 49-50 and 55-59);

a database program that can access said database and can be used as an interface to said database (Col.

7, Lines 45-67),

wherein said database program can be used to:

define a calculation expression for controlling access to said plurality records in said databases,

wherein said calculation expression is a variable expression defined based on a least one field of data used in a

plurality of records stored in said database (As shown in FIG. 14, tables 310 and 320 as in FIG. 11A

are stored in a conventional DBMS 280 (Col. 25, lines 49-50). Rows 311, 312, 321, 322 of the

tables 310, 320 contain management information for managed objects (Col. 25, lines 60-61).

The FDN operates as the primary key to the data stored in the table and to determine which

managed objects that a particular user is permitted to access or modify (Col. 19, lines 36-40).

Access control for a particular user on a particular managed object is defined by a permissions

table as shown below (Col. 26, lines 10-12).

Granted Permissions Table for Table 1

User Name	Object Name	Operation Type	
user_x	object_xyz	SELECT	
user_x	object_qrs	UPDATE	
user_y	object_xyz	SELECT	
user_y	object_abc	DELETE	
user_z	object_def	SELECT	
group_a	object_hij	SELECT	
group_z	object_jkl	SELECT	

(1502 labels the header row; 1510 labels the group_a row; "1" appears to the right of the header)

A permission entry 1502 is tuple having three fields, user name, object name, and

operation type. The object name, preferably, is the FDN or Full Distinguish Name for a managed

object (Col. 26, Lines 28-33). Referring to FIG. 11A as shown below, each row in the database

tables includes a field called the Fully Distinguished Name or FDN of a managed object followed

by columns of data. For example, an FDN can look like /systemid="sys1"/owner="accompany"/devicetype="router"

(Col. 19, Lines 24-35).

Row			
FDN	Data 1	...	Data N

As seen, each row of the Granted Permissions Table is defined by a meaningful

combination of variable characters or *variable expression* to specify a record access right for a

user, wherein each row in the Granted Permissions explicitly defines an access right of a user to

a record in the database with its Fully Distinguished Name as a key is equal to the specified

Fully Distinguished Name in the Granted Permissions Table. For example, based on the first

row of the Granted Permissions Table, a User Name = user_x has Operation Type = delete on

any record that has Object Name = object_xyz. Thus, each row expression in the Granted

Permissions Table is a *calculation expression* with a plurality of implied EQUAL OPERATOR, and is

evaluated by the FDN field of the record to determine the access right) and

calculation can be evaluated at least partly based on said at least one field (Col. 28, Lines 1-3, the

Grant table is checked to see if user has specific granted items, e.g., FDN, and as discussed

above, FDN is *at least one field of data used in said plurality of records* of FIG. 11A),

wherein said at least one field of data is a variable which may have different values for each of said

plurality of records (FIG. 10, tables 310 and 320, FDN field is *a variable which may have different values*

for each of said plurality of records),

thereby allowing access to said plurality of records to be selectively determined based on said calculation

expression (Col. 20, Lines 7-32, SELECT*, FROM view_table1_max WHERE FDN = "a/b/c", by

using SELECT*, if FDN is matched with FDN in Grant table, the other fields as in tables 310 and

320 will be accessed, wherein the record is selectively controlled by FDN) and

wherein said database program is further capable of:

receiving a request to perform at least one operation on said plurality of records in said

database (Col. 20, Lines 23-31);

evaluating user name, object name and operation type as *said calculation expression*

for said each of said plurality of records, based on said at least one field of data, e.g., FDN field, *when*

said request has been received, e.g., SQL command to access management information in

DBMS,

wherein said evaluating comprises:

(a) determining at least one value for said at least one field of data stored for a first record of said

plurality of records (As disclosed by Bapat, the FDN operates as the primary key to the

data stored in the table and to determine which managed objects that a particular user is

permitted to access or modify (Col. 19, lines 36-40). As seen, FDN as *value for said at least*

one field of data stored for a first record of said plurality of records as in FIG. 11A is determined),

(b) using said at least one value as input to said calculation expression to evaluate said calculation

expression for said first record (As disclosed by Bapat, the Grant table is checked to see if

user has specific granted items (Col. 28, Lines 1-3). This technique implies FDN is used

as *input to* a particular row in Grant table as *calculation expression to evaluate said calculation*

expression for said first record),

(c) determining a first result for said calculation expression based on said evaluation of said calculation

expression for said first record, wherein said first result effectively indicates whether to grant access to

said first record (access is granted if a match occurred (Col. 28, Lines 1-3). As seen,

granting access as *a first result* is determined, *wherein said first result effectively indicates whether*

to grant access to said first record).

Bapat does not explicitly teach *Graphical User Interface* is included to define expression.

However, as disclosed by Bapat, the system administrator 302 creates the permissions tables prior to use of the DBMS 280 by end users. The system administrator 302 invokes a call 440 to the *Create_Permissions_Tables* 442 procedure of the DBMS 280 (Bapat, Col. 26, lines 18-27). As seen, in order to create the permission table by the *Create_Permissions_Tables* procedure, obviously, a *Graphical User Interface* has to be used to enter the user name, FDN and access control code as discussed above.

Glasser teaches a Graphical User Interface for defining access control expression (Glasser, FIG. 6B).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to include a Graphical User Interface as taught by Glasser in order to have a friendly system to define access right for a user.

Regarding claim 45, Bapat and Glasser, in combination, teach all of the claimed subject matter as discussed above with respect to claim 43, Bapat further discloses *at least one operation can be a browse, an edit, or a delete operation* (FIG. 15A and B).

Regarding claim 46, Bapat and Glasser, in combination, teach all of the claimed subject matter as discussed above with respect to claim 43, Bapat further discloses *calculation expression is not explicitly defined for said at least one operation but said calculation expression is one that has been defined for another operation which has been considered as a related operation to said at least one operation* (FIG. 15A).

Regarding claim 47, Bapat and Glasser, in combination, teach all of the claimed subject matter as discussed above with respect to claim 43, Bapat further discloses *said calculation*

expression can be evaluated at least partly based on at least one state variable of said database (Col. 26, lines 28-33).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
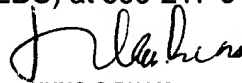
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM T. VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
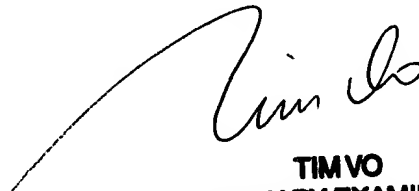
Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HUNG Q PHAM
Examiner
Art Unit 2168

May 17, 2006

TIM VO
PRIMARY EXAMINER